

中国喇叭螺属一新种记述 (肺螺亚纲, 柄眼目, 虹蛹螺科)

张宗禄¹ 张卫红² 罗泰昌^{1*}

1. 贵州师范大学生命科学学院 贵阳 550001

2. 新疆大学生命科学与技术学院 乌鲁木齐 830046

摘要 记述了采自贵州的陆生贝类1新种, 南江贝喇叭螺 *Boysidia* (*Bensonella*) *nanjiangensis* sp. nov., 新种与潼关贝喇叭螺 *Boysidia* (*Bensonella*) *tongguanensis* Chen & Zhang, 2002 近似, 文中附新种特征图。模式标本均保存于中国科学院动物研究所。

关键词 肺螺亚纲, 柄眼目, 虹蛹螺科, 喇叭螺属, 新种.

中图分类号 Q959.212

喇叭螺属 *Boysidia* 由 Ancey 于 1881 年创立 (Ancey, 1881), 其主要特征: 贝壳较小, 圆锥形, 有 $5 \sim 6 \frac{1}{2}$ 个膨胀的螺层, 体螺层 $\frac{1}{2}$ 笔直延伸或有时向下弯曲, 壳面较粗糙, 多数壳口内具有 6 枚齿, 壳口缘扩大, 与体螺层游离或紧贴。本属的种类迄今已知主要分布于我国黄河流域以南和南亚、东南亚的广大石灰岩地区 (Chen and Gao, 1987; Chen *et al.*, 1999; Guo *et al.*, 2006; Thompson and Dance, 1983)。Pilsbry 于 1916 ~ 1918 年 (Pilsbry, 1916 – 1918) 将喇叭螺属分为喇叭螺指名亚属 *Boysidia* (*Boysidia*), 其特征为在倒数第 2 螺层两板融合成 1 个叶板, 轴板在内向下弯曲; 奇喇叭螺亚属 *Boysidia* (*Paraboysidia*), 其特征为壳口上的齿不呈钩状; 贝喇叭螺亚属 *Boysidia* (*Bensonella*), 其特征为在倒数第 2 螺层上的两板独立, 体螺层不分离, 壳口上的齿呈钩状。Thompson 和 Dance 于 1983 年又创立 1 亚属 (Thompson and Dance, 1983), 即毛蛹喇叭螺亚属 *Boysidia* (*Dasyypupa*), 此亚属的种类现仅见于东南亚地区。

于 2005 年 10 月 3 日在贵州省开阳县南江峡谷采到贝喇叭螺亚属标本 357 枚, 经鉴定系 1 新种, 南江贝喇叭螺 *Boysidia* (*Bensonella*) *nanjiangensis* sp. nov.。模式标本均保存于中国科学院动物研究所。

南江贝喇叭螺, 新种 *Boysidia* (*Bensonella*) *nanjiangensis* sp. nov. (图 1 ~ 3)

形态特征 贝壳小型, 右旋, 壳质稍厚, 不透明, 略有光泽, 呈长圆锥形, 有 $6 \frac{1}{2}$ 个螺层。各螺

层均匀增长, 明显突出。螺旋部高, 呈高圆锥形。壳顶钝, 胚螺层光滑。体螺层膨大, 其高大约为次体螺层高的 3 倍。壳面栗褐色或茶褐色, 并有成斜行排列细致而稠密的生长线。壳口椭圆形, 口缘外折, 扩大, 颈部略延伸呈喇叭状。壳口内有 6 枚齿: 即 1 枚粗大、稍弯的片状壁齿, 位于壳口较浅处的 1 枚粗壮而弯曲的片状柱齿, 1 枚较小的乳头状基齿, 1 枚稍大的乳头状下腭齿, 其位置于壳口内较深, 和 2 枚较小的乳头状的中腭齿。脐孔稍大而深, 呈孔穴状。

正模标本 壳高 3.75 mm, 壳宽 2.00 mm, 壳口高 1.50 mm, 壳口宽 1.40 mm。罗泰昌采自贵州省开阳县南江峡谷, 海拔 1 234 m。2005 年 10 月 3 日。副模标本 356 个。其中 87 枚为成螺, 269 枚为幼螺。壳高 3.50 ~ 4.00 mm, 壳宽 1.86 ~ 2.20 mm, 壳口高 1.37 ~ 1.65 mm, 壳口宽 1.26 ~ 1.47 mm。罗泰昌采自贵州省开阳县南江峡谷, 2005 年 10 月 3 日 (注: 标本测量用测微尺, 共测量 50 枚成熟, 螺壳完整的标本, 其数据范围为实测所得, 螺层数目计算为贝壳壳口向下, 数缝合线数目加 1 所得)。

词源: 新种的种名源于模式标本栖息峡谷的名称“南江”。

栖息环境: 一般生活在石灰岩地区, 栖息于石灰岩岩石表面, 潮湿、多苔藓、地衣的地方, 也栖息在岩石缝隙中。

讨论 新种与潼关贝喇叭螺 *Boysidia* (*Bensonella*) *tongguanensis* Chen & Zhang, 2002 在形态上相似, 但后者贝壳的壳径较大 (壳高 3.78 ~ 4.10 mm, 壳宽 2.30 ~ 2.67 mm, 壳口高 1.40 ~ 1.78 mm, 壳口宽

贵州省高校发展专项资金和自然科学类重点科研项目资助 (黔教科 2004112)。

* 通讯作者。

收稿日期: 2011-01-25, 修订日期: 2011-05-27.



图 1~3 南江贝喇叭螺，新种 *Boysidia (Bensonella) nanjiangensis* sp. nov.

1. 壳口观 (apertural view) 2. 侧面观 (lateral view) 3. 底面观 (bottom view)

1. 20 ~ 1.60 mm); 壳口内有 5 枚齿; 角齿和壁齿融合并共同形成 1 枚较大的片状齿; 具 1 枚稍大的片状柱齿、1 枚上腭齿、1 枚下腭齿和 1 枚下下腭齿。无中腭齿, 故与前者有所区别。新种与修文贝喇叭螺 *Boysidia (Bensonella) xiuwenensis* Zhang, Luo & Zhou, 2010 (Zhang *et al.*, 2010) 在形态上相似, 但后者壳口内有 4 枚齿, 即 1 枚粗壮的片状壁齿, 1 枚较大弯曲的片状柱齿; 1 枚较小呈乳头状的下腭齿和 1 枚较小呈乳头状上腭齿。

REFERENCES (参考文献)

- Ancey, C. F. 1881. Descriptions de Mollusques Terrestres Nouveaux. Le Naturaliste, Paris. 373 - 374.
- Baker, H. B. 1935. Review of the Anatomy of Pupillidae and Related Groups. In: Pilsbry, H. A. (ed.), Manual of Conchology (Ser. 2). 28: 191 - 226.
- Chen, D-N and Gao, J-X 1987. Economic Fauna Sinica of China (Terrestria: Mollusca). Science Press, Beijing. 43 - 44. [陈德牛, 高家祥, 1987. 中国经济动物志, 陆生软体动物. 北京: 科学出版社. 43 ~ 44]
- Chen, D-N, Wu, M and Zhang, G-Q 1999. Studies on the genus *Boysidia* Ancey from China with descriptions of six new species (Pulmonata, Stylommatophora, Pupillidae). *Acta Zootaxonomica Sinica*, 24 (2): 124 - 135. [陈德牛, 吴岷, 张国庆, 1999. 中国喇叭螺属的研究及六新种记述. 动物分类学报, 24 (2): 124 ~ 135]
- Chen, D-N and Zhang, W-H 2002. Zoogeographical analysis of the *Boysidia* (Ancey, 1881) in China, description of a new species (Pulmonata, Stylommatophora, Pupillidae). *Acta Zootaxonomica Sinica*, 27 (4): 690 - 698. [陈德牛, 张卫红, 2002. 中国喇叭螺属的动物地理分析及一新种记述. 动物分类学报, 27 (4): 690 ~ 698]
- Guo, Y-H, Zhou, W-C and Luo, T-C 2006. One new species of the genus *Boysidia* (Pulmonata, Stylommatophora, Pupillidae). *Acta Zootaxonomica Sinica*, 31 (3): 541 - 543. [郭云海, 周卫川, 罗泰昌, 2006. 喇叭螺属一新种. 动物分类学报, 31 (3): 541 ~ 543]
- Haas, von F. 1937. Neue und kritische Pupilliden. *Arch. Moll.*, 69 (1/2): 2 - 12, pl. 1 - 3. figs 1 - 34.
- Heude, M. 1882 - 1885. Notes Sur Les Mollusques Terrestres de la Vallée du Fleuve Bleu. *Mem. d'Hist. nat. l'Emp. Chinois.* p. 12, pl. VII, figs 7 - 8.
- Luo, T-C, Chen, D-N and Zhang, G-Q 2000. Two new species of Pupillidae from China (Pulmonata, Stylommatophora, Pupillidae). *Acta Zootaxonomica Sinica*, 25 (2): 147 - 151. [罗泰昌, 陈德牛, 张国庆, 2000. 中国虹蛹螺科二新种. 动物分类学报, 25 (2): 147 ~ 151]
- Pilsbry, H. A. 1916 - 1918. Manual of Conchology. (Ser. 2.) 24: i - xii, 192 - 209, pls. 34 - 35.
- Pokryszko. 2006. The Gastrocoptinae of Australia (Gastropoda: Pulmonata: Pupilloidea): systematics, distribution and origin. *Invertebrate Taxonomy*, 10: 1085 - 1150.
- Thompson, F. G. and Dance, S. P. 1983. Non-Marine Mollusks of Borneo. II. Pulmonata: Pupillidae, Clausiliidae. III. Prosobranchia: Hydrocenidae, Helicinidae. *Bull. Florida State Mus., Biol. Sci.*, 29 (3): 101 - 152.
- Yen, T. C. 1939. Die Chinesisch Land-und Süßwasser-Gastropoden des Natur-Museum Senckenberg. *Abh. Senckenb. Natur. Ges.*, 444: 75 - 76, pl. 6, figs 39 - 44.
- Zhang, W-H, Luo, T-C and Zhou, W-C 2010. One new species of the genus *Boysidia* (Pulmonata, Stylommatophora, Pupillidae). *Acta Zootaxonomica Sinica*, 35 (4): 865 - 867. [张卫红, 罗泰昌, 周卫川, 2010. 中国喇叭螺属一新种记述. 动物分类学报, 35 (4): 865 ~ 867]

A NEW *BOYSIDIA* SPECIES FROM CHINA (PULMONATA, STYLOMMATOPHORA, PUPILLIDAE)

ZHANG Zong-Lu¹, ZHANG Wei-Hong², LUO Tai-Chang^{1*}

1. School of Life Sciences, Guizhou Normal University, Guiyang 550001, China

2. College of Life-Science and Technology, Xinjiang University, Urumqi 830046, China

Abstract A new species of Pupillidae land snail, *Boysidia* (*Bensonella*) *nanjiangensis* sp. nov. is described from Kaiyang County, Guizhou Province, China.

The main feature: having $6\frac{1}{2}$ whorls, 6 teeth in the aperture, including 1 large flat-shaped slightly winding parietal lamella, 1 strong flat-shaped winding columellar lamella, 1 small nipple-formed basal fold, 1 bigger nipple-formed infrapalatal fold and 2 small nipple-form interpalatal folds. Type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences, China.

Boysidia was built by Ancey C. F. in 1881. The *Boysidia* has following principal character, shell smaller, conical, whorls $5 - 6\frac{1}{2}$, half the body whorl straightly extends or sometimes bends down. Shell face crude. In the most case, Aperture with 6 teeth. Peristome expand, free or close. Species of this genus mainly distribute in more limestone of the vast south of the Yellow River in China, South Asia and Southeast Asia (Chen and Gao, 1987; Chen *et al.*, 1999; Guo *et al.*, 2006; Thompson and Dance, 1983). In Pilsbry 1916 – 1918 (Pilsbry, 1916 – 1918), divided the *Boysidia* into *Boysidia* (*Boysidia*) and *Boysidia* (*Bensonella*). The former's feature: the two lamellae on the penultimate whorl are fused to form a bilobed lamella; columellar lamella downwardly curved interiorly. The later's feature: the two lamellae on the penultimate whorl separated, body whorl not detached; *Boysidia* (*Paraboysidia*) the main character: Aperture teeth are not hook-shaped. Thompson F. G. and Dance S. P. (Thompson and Dance, 1983) built *Boysidia* (*Dasyypupa*) again in 1983. Species of this subgenus only distribute in Southeast Asian countries. 357 specimens of the *Boysidi* were collected by LUO Tai-Chang in Kaiyang County, Guizhou Province, China, 3 Oct. 2005. The specimens were identified new species, and named *Boysidia* (*Bensonella*) *nanjiangensis* sp. nov.

***Boysidia* (*Bensonella*) *nanjiangensis* sp. nov.** (Figs 1 – 3)

Morphological character. Shell small-sized, dextral, slightly thick, opaque, lustrous, easily smashing, long conical, Whorls $6\frac{1}{2}$. Uniform

growth of the whorl is obvious protrusion, suture deep. Spire high conic. Protoconch smooth, apex blunt. Body whorl oncoides, and it almost 3 times higher than penultimate whorl. Shell chestnut brown or tan, regularly and weakly striated. Aperture rounded-oval. Peristome scarcely reflected, well expanded, continuous. Aperture with 6 teeth: 1 large flat-shaped slightly winding parietal tooth; 1 strong flat-shaped winding columellar tooth on columellar margin shallow; 1 small nipple-formed basal tooth; 1 bigger nipple-formed infrapalatal tooth on aperture deeply and 2 small nipple-form interpalatal teeth. Umbilicus broad, deep, cavity-like.

Habitat. The new species generally live in the limestone area. It not only inhabits the surface of limestone rocks of moisture, mosses and lichens place, but also lives in the rock crevices, under leaves and twigs.

Discussion. The new species and *Boysidia* (*Bensonella*) *tongguanensis* Chen & Zhang, 2002, are similar on the morphology, but the latter species' shell is broader (height 3.89 mm, diameter 2.56 mm; aperture height 1.56 mm, aperture breadth 1.30 mm), have whorls $5\frac{1}{2}$, aperture with 5 teeth: the angular and parietal tooth are concrescent into 1 large stout, flexuous, lamellae reaching to the margin, 1 bigger lamellate supracolumellar tooth on columellar margin, 1 big nipple-shaped lower palatal tooth and 1 upper palatal tooth, and 1 small infrapalatal tooth. Compared with another species *Boysidia* (*Bensonella*) *xiuwenensis* Zhang, Luo & Zhou, 2010, they are similar on the morphology too, but the latter species has 6 whorls, and aperture with 4 teeth: 1 large stout flake-formed angular tooth, 1 bigger flexuous, flake-formed columellar tooth, 1 small nipple-formed lower palatal tooth, 1 small nipple-formed upper palatal tooth.

Holotype. Height 3.75 mm, diameter 2.00 mm, aperture height 1.50 mm, aperture breadth 1.40 mm. Type locality: China, Nanjiang Gorge, Kaiyang County ($27^{\circ}01'N$, $106^{\circ}58'E$; alt. 1 234 m), Guizhou Province. Adult collected by LUO Tai-Chang, 3 Oct. 2005.

Paratypes. 356 specimens. Including 87 adult snails, 269 juvenile snails. Height 3.50 – 4.00 mm, diameter 1.86 – 2.20 mm, aperture height 1.37 –

* Corresponding author.

1. 65 mm, aperture breadth 1.26 – 1.47 mm (note: measured 50 adult snail specimens, the number of whorl is the number of suture plus 1). The collection data was same as holotype.

Etymology. The new species is named after its locality “Nanjiang Gorge”.

Type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences, China.

Key words Pulmonata, Stylommatophora, Pupillidae, *Boysidia*, new species.

更正

《动物分类学报》2011 年 36 卷第 2 期 356 ~ 367 页刊登的“华南地区黑眶蟾蜍的遗传变异和地理分化”补充内容如下：

1) 356 页脚注补充广东省自然科学基金项目 (04010391); The Conservation Agency Through a Grant from the Falconwood Foundation of USA.

2) 358 页左栏第 1 段末“……完成序列测定。”后补充：获得的 44 个单倍型序列已上传 GenBank, 登录序列号 (Accession Nos.) 为: JF710200 – 710243。